

## CLAIMS

1. A polyglycolic acid resin filament comprising a polyglycolic acid resin having a residual monomer content of below 0.5 wt.% and exhibiting a tensile strength of at least 750 MPa and a knot strength of at least 600 MPa.
2. A filament according to claim 1, exhibiting a knot strength of at least 650 MPa.
3. A filament according to claim 1 or 2, exhibiting a tensile strength of at least 800 MPa.
4. A filament according to any of claims 1 - 3, comprising a polyglycolic acid resin having a residual monomer content of below 0.2 wt.%.
5. A filament according to any of claims 1 - 4, exhibiting a tensile elongation at break of 10 - 50 %.
6. A filament according to claim 5, exhibiting a tensile elongation at break of 15 - 40 %.
7. A filament according to claim 5, exhibiting a tensile elongation at break in excess of 20 % and below 30 %.
8. A filament according to any of claims 1 - 7, exhibiting a tensile modulus of elasticity of at least 12 GPa.

9. A process for producing a polyglycolic acid resin filament,  
comprising: melt-spinning a polyglycolic acid resin having a residual  
monomer content of below 0.5 wt.%, quenching the spun resin in a  
5 liquid bath of at most 10 °C and stretching the spun resin in a liquid  
bath of 60 - 83 °C.
10. A process for producing a filament according to claim 9, wherein a  
second-step stretching is performed after said stretching at a  
10 temperature higher than the temperature of said stretching and at a  
stretching ratio of at most 1.8 times.
11. A process for producing a filament according to claim 9 or 10,  
wherein a second-step stretching is performed after said stretching at a  
15 temperature which is higher than the temperature of said stretching by  
at most ca.40 °C.
12. A process for producing a filament according to claim 9 or 10,  
wherein a second-step stretching is performed after said stretching at a  
20 temperature which is higher than the temperature of said stretching by  
at most ca.12 °C.
13. A process for producing a polyglycolic acid resin filament,  
comprising: melt-spinning a polyglycolic acid resin, quenching the spun  
25 resin in a liquid bath of at most 10 °C, then subjecting the spun resin to  
a first-step stretching in a liquid bath at a temperature of 60 - 83 °C,  
and then subjecting the spun resin to a second-step stretching at a

temperature higher than the temperature of the first-step stretching by at most 12 °C and at a stretching ratio of at most 1.8 times.

14. A process for producing a filament according to any of claims 9 -  
5 13, wherein a polyglycolic acid resin having a residual monomer content of below 0.2 wt.% is subjected to the melt-spinning.

15. A fishing line comprising a filament according to any of claims 1 -  
8.